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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,087	09/30/2003	Thomas S. Cohen	1849-US	4766

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EXAMINER	
TSUKERMAN, LARISA Z	
ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 08/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/675,087	THOMAS S. COHEN	
	Examiner	Art Unit	
	Larisa Z Tsukerman	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6-9,13,14 and 18-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6-9,13,14 and 19* is/are allowed.

6)☒ Claim(s) *1-3 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 - 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Preputnik et al. (5795191) in view of Embo et al. (5865645).

In regard to claim 1, Preputnik et al. disclose an assembly comprising:

the **first electrical connector** 10 comprising a plurality of wafers 30, with each of the plurality of wafers including:

a first insulative housing 12/54**;**

a plurality of **first signal conductors 40**, with each first signal conductor having a **first contact end** 52 connectable to a first printed circuit board 74, a **second contact end 46**, and an **intermediate portion** 50 therebetween that is disposed in the first insulative housing 12/54;

a shield plate 60, the shield plate having a plurality of **first contact ends 62** connectable to the first printed circuit board 74, a plurality of **second contact ends 68**, and an **intermediate portion** 66 therebetween that is disposed in the first insulative housing 12/54;

the **second electrical connector** 80 having:

a **second** insulative **housing** 82, **ground conductors 86** and **second signal conductors 84** in a plurality of rows, with each of the plurality of **rows** comprising:

a **plurality of ground conductors 86** and **second signal conductors 84,** each second signal conductor **84** having a **first contact end** connectable to a second printed circuit board (not marked, see Fig. 8), a **second contact end** (not marked, see Fig. 8) mateable to **the second contact end** of one of the **first signal conductors 46**, and an intermediate portion therebetween that is disposed in the base of the second insulative housing 82;

each ground conductor 86 having a **first contact end** connectable to the second printed circuit board (not shown and marked, see Fig. 8), **a second contact end** mateable to the **second contact end 62 of the shield plate 60**, and an **intermediate portion** (not marked, see Fig. 8) therebetween that is disposed in the base of the second insulative housing 82;

the first contact end of the second signal conductor 84 having a contact tail (not marked, see Fig.8) and the second signal conductors 84 and the ground conductors 86 are positioned adjacent to one another so that for each second signal conductor 84 contact tail (not marked, see Fig.8), there are ground conductor 86 contact tails adjacent either side of the second signal conductor 84 contact tail.

However, Preputnik et al. do not disclose **that** the first contact end of the ground conductor having at least **two contact tails.**

Embo et al. show a ground contact 10 comprising two contact tails 21.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a first contact end of the ground conductor 86 in structure of Preputnik et al. by including two contact tails as taught by Embo et al. **in order to provide** better and stronger mechanical connection between the ground contact and supporting structure (PCB).

In regard to claim 2, Preputnik et al. disclose that a distance between a second signal conductor 84 contact tail (not marked, see Fig.8) and an adjacent ground conductor 86 contact tail of a row is less than a distance between adjacent rows (see Fig.1 and Col.).

In regard to claim 3, Preputnik et al. disclose that for each of the plurality of rows of the second electrical connector 80, the contact tails of the second signal conductors 84 and the ground conductors 86 are configured to align along a line when connected to the second printed board.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Preputnik et al. (5795191) in view of Van Woensel (6299484) and further in view of Embo et al (5865645).

Preputnik et al. discloses an electrical connector assembly having a first electrical connector mateable to a second electrical connector, the electrical connector assembly comprising:

the first electrical connector 10 comprising a plurality of wafers 30, with each of the plurality of wafers including:

a first insulative housing 12/54;

a plurality **of first signal conductors 40**, with each **first signal conductor** having a **first contact end** 52 connectable to a first printed circuit board 74, **a second contact end 46**, and **an intermediate portion** 50 therebetween that is disposed in the first insulative housing 12/54;

at least one **ground member 60**, the **ground member** having at least one **first contact end** 62 connectable to the first printed circuit board 74, at least **one second contact end 68**, and an intermediate portion 66 therebetween that is disposed in **the first insulative housing 12/54**;

the second electrical connector 80 having an insulative housing 82, ground conductors 86 and second signal conductors 84 in a plurality of rows, with each of the plurality of rows comprising:

a plurality of ground 86 and signal second conductors 84;

each second signal conductor 84 having a **first contact end** (not marked, see Fig.8) connectable to a second printed circuit board, **a second contact end** (not marked, see Fig. 8) mateable to **the second contact end** 46 of one of the first signal conductors 40, and an intermediate portion 50 therebetween that is disposed in the second insulative housing 12/54;

each ground conductor 86 having a first contact end connectable to the second printed circuit board (not shown and marked), a second contact end mateable to the second contact end 62 of the ground member 60, and an intermediate portion (not marked, see Fig.8) therebetween that is disposed in the second insulative housing 82;

the first contact end of the second signal conductor 84 having a contact tail (not marked, see Fig.8) and the first contact end of the **ground conductor** 86 having a **contact tail** (not marked, see Fig.8);

the second signal conductors 84 and **the ground conductors** 86 are positioned adjacent to one another so that for each second signal conductor contact tail, there are ground conductor contact tails adjacent either side of the second signal conductor contact tail.

However, Preputnik et al. do not disclose the following limitations:

(1) that the first insulative housing providing an area, which **exposes** a portion of the intermediate portion of the **ground member** and attached **a conductive member** to the plurality of wafers and electrically connecting to each **ground member** at **the exposed** intermediate portion of the **ground member; and**

(2) that the first contact end of the ground conductor having at least **two contact tails.**

In regard to limitation **(1),** Van Woensel teaches a first insulative housing 3/5 providing an area 21 which exposes a portion of the intermediate portion of the ground member 7 and a conductive member 24 attached to the plurality of wafers (modules), the conductive member 24 electrically connecting to each ground member 7 at the exposed intermediate portion 21 of the ground member 7 in order advantageously to create **a second grounding path**, to prevent EMI effect, nose and spurious signals.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made and for the same reason to include **a conductive**

member (second grounding path) in structure of Preputnik et al. as taught by Van Woensel.

Further, in regard to limitation (2), Embo et al. show a ground contact 10 comprising two contact tails 21.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a first contact end of the ground conductor 86 in structure of Preputnik et al. by including two contact tails as taught by Embo et al. **in order to provide** better and stronger mechanical connection between the ground contact and supporting structure (PCB).

Allowable Subject Matter

Claims 6 – 9, 13-14 and 19 are allowed.

Response to Arguments

Applicant's arguments filed 07/29/04 have been fully considered but they are not persuasive.

In response to arguments regarding claims 1 and 18 on page 10 of the Remarks:

(1) Examiner only admitted that Preputnik et al. **do not disclose** the first contact end of the ground conductor having **two contact tails** and **never mentioned** that Preputnik et al. **fails to disclose a plurality of rows**.

In response to Applicant's argument

(2) "that the reason why the Applicants of the present invention have utilized the two ground contact tails per signal contact tail does **not relate** to printed circuit board **fastening reasons**, and there is absolutely no teaching or suggestion for such combination in any of the prior art references cited by the Examiner", the Examiner recognizes that reference cannot be arbitrary combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975). However, there is no requirement that the motivation to make the modification be expressly articulated. The test for combining the references is what the combination of disclosures taken as a whole would suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA 1969). In this case Embo et al. reference only used to show that **a ground contact 10 has two tails 21**.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larisa Z Tsukerman whose telephone number is (571)-272-2015. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A Bradley can be reached on (571)-272-2800 ex. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LT
08/13/2004

THO D. TA
PRIMARY EXAMINER